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EXAMINER	
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/887,066
Filing Date: June 25, 2001
Appellant(s): GILBERT ET AL.

Alan E. Schiavelli
For Appellant

MAILED
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GROUP 1700

EXAMINER'S ANSWER

This is in response to the Request for Reinstatement of Appeal 5/23/05.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of invention contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(8) Evidence Relied Upon

5,090,256	Issenmann	2-1992
5,566,720	Cheney et al.	10-1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims **9-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Issenmann (USPN 5,090,256) in view of Cheney et al. (USPN 5,566,720).

Issenmann teaches a method and apparatus for sampling the gaseous content of a liquid by providing a means for extracting in the gaseous form hydrocarbons contained in a liquid drilling fluid after drilling in a reservoir rock. The method and apparatus are particularly applicable to the sampling of drilling mud from an oil well exploration site for purposes of analyzing the hydrocarbon content of the drilling mud (abstract). Predetermined quantity of liquid is degassed over a certain period of time and the gas released from the predetermined quantity of liquid is drawn off and transported to an analyzing and measuring device (col. 3, lines 2-7). The drilling mud of the oil well is sampled and degassed to obtain and analyze hydrocarbon gases which were occluded in the mud of the oil well. The analyzing and measuring device is conventional, and may be a flame ionization measuring device (col. 3, lines 11-18; col. 4, lines 19-20; col. 5, lines 58-63). The liquid laden with solids is obtained as close as possible to its source to prevent the escape therefrom of gases occluded therein. The arrangement for collecting and delivering the liquid laden with solids to the degassing

device 23 comprises a rotary pump 19. The degassing device 23 is a container for receiving the liquid laden with solids. A nozzle 24 is connected to the degassing device 23. A flexible tube 25 is connected to the nozzle for conveying gases released from the liquid inside the container of the degassing device 23 to a collecting tube 26 mounted thereto. The collecting tube 26, in turn, delivers the gases through a tube 27 to an analyzing device (not shown) (col. 5, lines 53-63). All of the gaseous elements contained in the drilling mud are actual light hydrocarbons ranging from methane to normal pentane. These hydrocarbons are extracted at a rates of at least 85 to 90%, whatever the type and density of the drilling mud transporting the hydrocarbons to the surface. This is still true even if the drilling mud has a solvent base, such as gas oil, fuel oil, or crude oil (col. 8, lines 28-35). It would be obvious to one of ordinary skill that in Issenmann, the tubular line would have been several ten meters long because in the case of oil exploration the source being the well head, the extracted gas must travel to the analyzing devices (col. 8, lines 9-23), which is typically not on-site.

Issenmann does not teach any information regarding the specific material that is in the transport tubing.

Cheney teaches an elongated fuel and vapor tube having multiple layers suitable for conveying fluids containing hydrocarbons having a first layer disposed radially innermost and having an inner surface capable of prolonged exposure to the hydrocarbon-containing fluid that comprises of a fluoroplastic material being a terpolymeric material containing tetrafluoroethylene, vinylidine difluoride and

hexafluoropropylene (abstract, col. 3, lines 37-40; col. 4, lines 18-33), the inner tube being externally protected by at least one other sheath (claim 1).

It would have been obvious to one having an ordinary skill in the art at the time of the invention to modify Issenmann to include the elongated fuel and vapor tube of Cheney because of the increased retention time of the hydrocarbons in the tubing during the transporting to the analyzer or the measurement means and to limit retention of trace hydrocarbons so that the samples can be analyzed in there purest form when transported from the degassing apparatus.

Regarding claim 11 and 19, the thickness of the inner tube ranges between 0.1 mm and 0.5 mm. Cheney teaches the inner tubing having a **total wall thickness** of between about 0.5 mm and 2 mm. At its smallest wall thickness 0.5 mm the wall comprises of three layers, an innermost, a secondary sub layer, and a second layer, a total of three layers (claim 14; col. 4, lines 34-46). Therefore at least one of the layers is below 0.5 mm because the total wall thickness is 0.5 mm, the inner layers would have to be smaller than the total thickness. It would have been obvious to one having an ordinary skill in the art to modify Cheney to have a inner tube thickness between 0.5 mm and 0.1 mm because this size of inner tubing would allow limited retention of hydrocarbons.

Regarding claim 12 and 20, the thickness of the inner tube ranges between 0.1 and 0.2 mm. Cheney and Issenmann are silent to this thickness. However, such is considered a result effective variable. It would have been obvious to one having an ordinary skill in the art at the time the invention was made to determine through routine

experimentation an optimal thickness of the inner tube thickness that would limit retention of hydrocarbons while still providing sufficient pressure resistance.

Regarding claims 13, 14, 21 and 22, the inside diameter of the inner tube ranges between 3 and 12 mm and preferably between 6 and 10 mm. Cheney and Issenmann are silent to this thickness. However, such is considered a result effective variable. It would have been obvious to one having an ordinary skill in the art at the time the invention was made to determine through routine experimentation an optimal inner tube diameter that would provide a reasonable sample size for analysis without interference with the normal operation of an oil well head device.

(10) Response to Argument

Appellant argues, "The tube is disclosed to be for use in a motor vehicle, in particular, as a fuel line or vapor recovery line in a motor vehicle. There is absolutely no suggestion in Cheney et al or in any of the prior art to use such a tube with the apparatus of Issenmann. Accordingly, there would have been no motivation to combine the teachings of Issenmann and Cheney et al in the manner urged by the Examiner." Issenmann teaches sampling of gaseous content in liquid laden with solids. The apparatus is applicable to the sampling of gaseous hydrocarbons suspended in drilling mud obtained from an oil exploration well. Oil exploration wells are well known to be located off shore miles away from land where analysis on these suspended hydrocarbons can be processed. Hydrocarbon adsorption in this, or any sample line, would have been an issue. Cheney teaches the need for tubing that limits the retention

time of hydrocarbons (specifically col. 1, lines 25-30; col. 3, lines 11-22; col. 4, lines 30-32 (vapor recovery); col. 4, lines 39-44). This clearly exhibits tubing that limits the retention of hydrocarbons. Therefore, there is motivation to combine Issenmann with the elongated fuel and vapor tube having multiple layers of Cheney in order to provide tubes that limits retention of trace hydrocarbons so that the samples can be analyzed in there purest form when transported from the degassing apparatus.

Appellant argues, "While the Examiner alleges that the thickness of the inner tube "is considered a result effect variable," the Examiner has not shown where the prior art teaches that the thickness is a result effective variable. The only teachings relating to the thickness is given in Cheney et al and, it is submitted, the Cheney et al teaching would have taught away from the presently claimed thickness." Cheney teaches the thickness of the inner tube ranges between 0.1 mm and 0.5 mm. Cheney teaches the tubing having a **total wall thickness** of between about 0.5 mm and 2 mm. At its smallest wall thickness 0.5 mm the wall comprises three layers, an innermost, a secondary sub layer, and a second layer, a total of three layers (claim 14; col. 4, lines 34-46). Therefore at least one of the layers is below 0.5 mm because the total wall thickness is 0.5 mm, the inner layers would have to be smaller than the total thickness. It would have been obvious to one having an ordinary skill in the art to modify Cheney to have an inner tube thickness between 0.5 mm and 0.1 mm because this size of inner tubing would allow limited retention of hydrocarbons.

Appellant argues, "the Examiner alleges the diameter "is considered a result effective variable." Only the Cheney et al. patent discloses the diameter of the vapor

tube and, rather than suggesting the present invention, teaches away from the present invention." Regarding claims 13, 14, 21 and 22, the inside diameter of the inner tube ranges between 3 and 12 mm and preferably between 6 and 10 mm. Cheney and Issenmann are silent to this thickness. However, such is considered a result effective variable. It would have been obvious to one having an ordinary skill in the art at the time the invention was made to determine through routine experimentation an optimal inner tube diameter that would provide a reasonable sample size for analysis without interference with the normal operation of an oil well head device. The diameter is set by how much flow is intended to flow through the tubing, the greater the diameter, the greater the flow. The same goes with the smaller the diameter the smaller the flow through the tubing.

Appellant argues, "the tubular line is several ten meters long...These problems are not disclosed by either Issenmann or Cheney et al and the solution of the present invention is certainly not suggested." It would be obvious to one of ordinary skill that in Issenmann, the tubular line would have been several ten meters long because in the case of oil exploration the source being the well head, the extracted gas must travel to the analyzing devices (col. 8, lines 9-23), which is typically not on-site.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Sam P. Siefke

Conferees:

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November 23, 2005